

REMARKS/ARGUMENTS

Reconsideration of the application is respectfully requested for the following reasons:

The present remark is in response to the Office Action mailed August 22, 2005, in which Claims 1 through 27 were rejected.

No claims are amended. No Claims are canceled and no claims are added. Accordingly, Claims 1-27 remain pending.

Applicant respectfully requests reconsideration in light of the above amendments and the following remarks.

CLAIM REJECTION-35 U.S.C. SECTION 102 (e)

With respect to Page 2 through 3 of the Office Action, the Claims 1, and 5-7 stand rejected under 35 U.S.C. 102 (b) as being anticipated by Lee et al (U.S. Patent No. 6,033,981).

Examiner is of the opinion that Lee et al ('981) teaches "a method for gap filling between metal-metal lines". Respect with the disclosure of Lee et al ('981) disclose that "depositing an insulating layer overlying said first HDP oxide layer and said exposed conducting line sidewalls". Nevertheless, according to the present invention, recited that "forming a second dielectric layer on said first dielectric layer by a third high density plasma, and covering said plurality of metal lines

thereon" as in Claim 1. The "insulating layer" did not form in the structure of present invention. Also, according to figures of the present invention, the step of "second dielectric layer is formed on the first dielectric layer by a third high density plasma" is performed after the step of "removing said first dielectric layer until a portion of said side wall of said plurality of metal lines are exposed...". Therefore, the formation steps of the present invention did not "depositing an insulating layer overlying said first HDP oxide layer...",

CLAIM REJECTION-35 U.S.C. SECTION 103 (a)

Claims 2-4 and 8-27 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al '981 as applied to Claims 1 and 5-7 in view of Kim et al (U.S. Patent Application Publication No. 2004/0119170) and Lee et al (U.S. Patent No. 6,103,630).

Examiner is of the opinion that Lee et al '981 teaches "a method for gap filling between metal-metal lines", and Kim et al (2004/0119170) teaches "a method of forming a semiconductor device, forming a dielectric layer silicon oxide by using SiH₄ (depositing gas), O₂ (oxidative gas), and Ar (inert gas) in the chamber...", and also in view of Lee et al ('630), which teaches "a method forming an adhesive layer on the under side of the metal lines, forming an antireflection layer SiOxNy (ARC) on the metal line layer.

Respect with the combination of the above references, the formation steps is different between the present invention and the

combination of the above references. In the combination of the disclosure of the above references, the formation steps is that the “an anti-reflection layer is deposited over the metal layer”, and “a silicon oxide or oxynitride is deposited over the ARC layer”, wherein the “silicon oxide or oxynitride will form the hard mask for etching the metal lines”. Nevertheless, regards as the present invention which recited “an anti-reflection layer formed on top of said plurality of metal lines” as in Claim 3, and “the material of said antireflection layer is silicon-oxy-nitride). Thus, the material of “ARC layer” is different between the present invention and the combination of the disclosure of above references.

Also, the combination of the disclosure of above references disclose that the “silicon oxide or oxynitride is deposited over the ARC” which different from the recitation “forming a second dielectric layer on said first dielectric layer by a third high density plasma,...” as in Claim 1, or “a third high density plasma is produced from said third mixed gas to form a second dielectric layer on said first dielectric layer” as in Claim 20. Thus, Applicant believed that the combination of the above references did not over patentable the present invention.

Conclusion

In the light of the above amendments and remarks, Applicant respectfully submits that all pending Claims 1 through 27 as currently presented are in condition for allowance. Applicant has thoroughly reviewed that art cited but relied upon by the Examiner. Applicant has concluded that these references do not affect the

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patentability of these claims as currently presented. Accordingly,
reconsideration is respectfully requested.

Respectfully submitted,

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A handwritten signature in black ink, appearing to be 'R. J. Ho', written over a horizontal line.

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